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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,912	06/16/2005	Helmut Sieber	2002CH014	8400
25255 7590 02/21/2008 CLARIANT CORPORATION INTELLECTUAL PROPERTY DEPARTMENT 4000 MONROE ROAD CHARLOTTE, NC 28205			EXAMINER CHUNG, RAYMOND	
			ART UNIT 4145	PAPER NUMBER
			MAIL DATE 02/21/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/539,912

**Applicant(s)**

SIEBER, HELMUT

**Examiner**

RAYMOND CHUNG

**Art Unit**

4145

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF 298)  
Paper No(s)/Mail Date 20070129
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 3 is objected to because of the following informalities:

With regards to formula (6), R<sub>18</sub> is listed; however, it is not part of the formula.

With regards to formula (7), R<sub>21</sub> is not indicated. While R<sub>15</sub> is defined, there is no R<sub>15</sub> listed in the formula.

With regards to formula (12), R<sub>29</sub>, R<sub>30</sub>, and R<sub>31</sub> are not indicated. R<sub>26</sub>, R<sub>17</sub>, R<sub>27</sub>, and R<sub>28</sub> are listed; however, they are not part of the formula. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The percentage stated in the instant claims renders the claim indefinite because there is no indication as to whether the percentage refers to percentage by weight, by volume, or by weight/volume. For the purpose of this Office action, the percentage will be treated as weight percentage.

**Claim Rejections - 35 USC § 102**

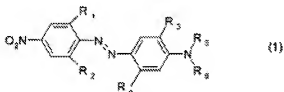
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

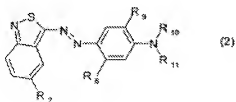
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3 and 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Choi et al (Coloration Technology (2001), 117(3), 127-133).

With regards to claims 1-3, Choi et al teaches dye mixture comprising at least one dye of the formula (1) (P129, left column, table 1, "navy" or "black" formulation, dyes 4 and 7)



and at least one dye of the formula (2) (P129, left column, table 1, "navy" or "black" formulation, dye 12)



where

R<sub>1</sub> is hydrogen, halogen, nitro or cyano

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R<sub>2</sub> is hydrogen, halogen, nitro or cyano

R<sub>3</sub> is hydrogen, halogen, C<sub>1</sub>-C<sub>4</sub>-alkoxy or C<sub>1</sub>-C<sub>4</sub>-alkyl

R<sub>4</sub> is hydrogen, or Cl-C<sub>4</sub>-alkyl,

R<sub>5</sub> is hydrogen, unsubstituted or hydroxyl-, cyano-, C<sub>1</sub>-C<sub>4</sub>-alkylcarbonyloxy-, substituted C<sub>1</sub>-C<sub>4</sub>-alkyl or C<sub>1</sub>-C<sub>4</sub>-alkenyl,

R<sub>6</sub> is unsubstituted or hydroxyl-, cyano-, C<sub>1</sub>-C<sub>4</sub>-alkylcarbonyloxy-, C<sub>1</sub>-C<sub>4</sub>-alkoxycarbonyl-substituted C<sub>1</sub>-C<sub>4</sub>-alkyl or C<sub>1</sub>-C<sub>4</sub>-alkenyl,

R<sub>7</sub> is nitro, C<sub>1</sub>-C<sub>4</sub>-alkoxy or the radical -SO<sub>2</sub>CH<sub>3</sub>,

R<sub>8</sub> is hydrogen or C<sub>1</sub>-C<sub>4</sub>-alkyl,

R<sub>9</sub> is hydrogen or C<sub>1</sub>-C<sub>4</sub>-alkyl,

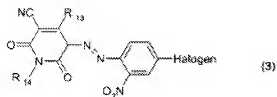
R<sub>10</sub> is unsubstituted or hydroxyl- or cyano-substituted C<sub>1</sub>-C<sub>4</sub>-alkyl, and

R<sub>11</sub> is unsubstituted C<sub>1</sub>-C<sub>4</sub>-alkyl or is C<sub>1</sub>-C<sub>4</sub>-alkyl which is substituted by the radical -O-COR<sub>12</sub>, where R<sub>12</sub> is C<sub>1</sub>-C<sub>4</sub>-alkyl.

- wherein said dye mixture comprises up to 60% of the dye of formula (1) based on the sum total of the dyes (1) and (2) (P129, left column, table 1, "navy" formulation; the percentage of dyes 4 and 7 combined would correspond to 36% by weight based on the sum total of dyes 4,7, and 12);

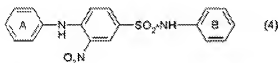
- further comprising at least one further one of the following dyes (P129, left column, table 1, "navy" or "black" formulation, dye 11):

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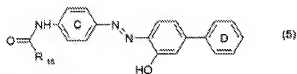


where

$R_{13}$  is  $C_1$ - $C_4$ -alkyl,  $R_{14}$  is  $C_1$ - $C_4$ -alkyl and Halogen denotes the is a halogen atom,



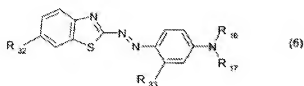
where the rings A and B may be further substituted,



where

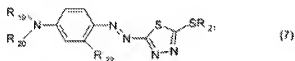
$R_{15}$  is  $C_1$ - $C_4$ -alkyl and the rings C and D may be further substituted,

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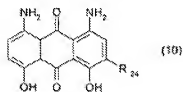
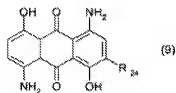
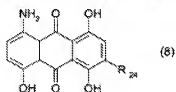
where

$R_{16}$  is unsubstituted or hydroxyl- or cyano-substituted  $C_1$ - $C_4$ -alkyl,  $R_{17}$  is unsubstituted  $C_1$ - $C_4$ -alkyl or  $C_1$ - $C_4$ -alkyl which is substituted by the radical  $-O-COR_{18}$ , where  $R_{18}$  is  $C_1$ - $C_4$ -alkyl,  $R_{32}$  is nitro,  $C_1$ - $C_4$ -alkoxy or the radical  $-SO_2CH_3$  and  $R_{33}$  is hydrogen or  $C_1$ - $C_4$ -alkyl.



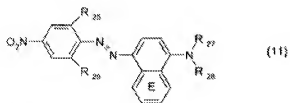
where

$R_{19}$  is  $C_1$ - $C_4$ -alkyl,  $R_{20}$  is  $C_1$ - $C_4$ -alkyl,  $R_{21}$  is  $C_1$ - $C_4$ -alkyl and  $R_{22}$  is  $C_1$ - $C_4$ -alkyl or the radical  $-NHCO R_{23}$ , where  $R_{23}$  is  $C_1$ - $C_4$ -alkyl.



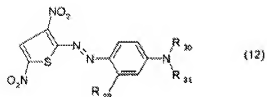
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where  $R_{24}$  is halogen,



where

$R_{25}$  is cyano, nitro or halogen,  $R_{26}$  is halogen,  $R_{27}$  is unsubstituted or hydroxyl-substituted  $C_1$ - $C_4$ -alkyl and  $R_{28}$  is unsubstituted or hydroxyl-substituted  $C_1$ - $C_4$ -alkyl and the naphthyl ring E may be further substituted, and/or



where

$R_{28}$  is  $C_1$ - $C_4$ -alkyl or the radical  $NHGOR_{17}$ , where  $R_{17}$  is  $C_1$ - $C_4$ -alkyl,  $R_{27}$  is  $C_1$ - $C_4$ -alkyl or  $C_1$ - $C_4$ -alkylcarbonyloxy- $C_1$ - $C_4$ -alkyl and  $R_{28}$  is  $C_1$ - $C_4$ -alkyl or  $C_1$ - $C_4$ -alkylcarbonyloxy- $C_1$ - $C_4$ -alkyl.

With regards to claim 5, Choi et al teaches a method for dyeing or printing a semisynthetic or synthetic hydrophobic fiber comprising cellulose acetate, comprising the step of contacting a dye mixture set forth above with the semisynthetic or synthetic hydrophobic fiber material comprising cellulose acetate (P128, right column, last paragraph to P129, left column, first paragraph).

With regards to claim 6, Choi et al teaches a method for dyeing or printing a structure comprising polyester and/or cellulose secondary acetate, comprising the step



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of contacting a dye mixture set forth above with the fibrous structure comprising polyester and/or cellulose secondary acetate (P128, right column, last paragraph to P129, left column, first paragraph; "dye formulations and conventional dyes were applied to 100% diacetate or a blend made up of acetate and nylon" and "polyester-elastane").

With regards to claim 7, Choi et al teaches a fibrous structure dyed or printed with a dye as set forth above (P129, left column, first paragraph; "dyed samples" obtained by dyeing 100% diacetate or a blend made up of acetate and nylon).

With regards to claim 8, Choi et al teaches a semisynthetic or synthetic hydrophobic fiber material dyed or printed with a dye mixture set forth above (P129, left column, first paragraph; "dyed samples" obtained by dyeing 100% diacetate or a blend made up of acetate and nylon).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

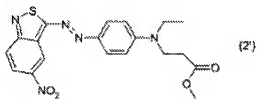
7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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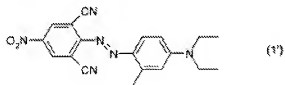
2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Choi et al (Coloration Technology (2001), 117(3), pp. 127-133) as applied to claim 1 above in view of Hoppe et al (US Patent 5,160, 348).

With regards to claim 4, Choi et al teaches a dye mixture set forth above wherein the at least one dye of the formula (2) is a dye of formula (2') (P129, left column, table 1, "navy" or "black" formulation, dye 12)



in conjunction with a dye (P129, left column, table 1, "navy" or "black" formulation, dyes 4 and 7) similar in structure to that of formula (1').

However, Choi et al does not specifically teach that the at least one dye of the formula (1) is a dye of formula (1')



Hoppe et al discloses a preferred dye mixture comprising the dye of formula (1') (C8, formula A) used in conjunction with a dye (C8, formula B) similar in structure to that of formula (2').

Choi et al and Hoppe et al disclose analogous inventions related to mixtures of azo disperse dyes. It is known in the art that azo dyes of formulas (1') and (2') are useful in dyeing hydrophobic material and that mixtures of various azo dyes afford improved dye deposition and fastness on hydrophobic material as evidenced by Choi et al (P133, right column, first paragraph, L1-6) and Hoppe et al (C8/L61-65). Therefore, one of ordinary skill in the art would have been motivated to combine the dye of formula (2') disclosed by Choi et al with the dye of formula (1') disclosed by Hoppe et al in a dye mixture because the combination would afford a dye mixture free of charged dyes capable of dyeing hydrophobic material in a predictable manner. This would amount to nothing more than substituting dyes of similar structure to obtain the predictable result of improved dye deposition and fastness on hydrophobic material such as cellulose acetate and polyester.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAYMOND CHUNG whose telephone number is (571)270-3881. The examiner can normally be reached on Monday-Thursday, 8am-5:30pm EST, Alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Basia Ridley can be reached on (571) 272-1453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gwendolyn Blackwell/  
Primary Examiner, Art Unit 1794

/R.C./  
12 February 2008